

Amendments to the Claims:

Please amend claims 1, 3, 4, 6, 8, 9, 11, 13, 14 and 16-18, without prejudice.

Please add new claims 19-27.

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. **(Currently Amended)** A method of delivering security services, comprising:
 connecting a plurality of processors in a ring configuration within a first ~~processing system~~ network device at a first point-of-presence of a service provider network;
 establishing a secure connection between a second ~~processing system~~ network device at a second point-of-presence of the service provider network and the first ~~processing system~~ network device across an internet protocol (IP) connection to form a tunnel; [[and]]
 routing messages from the second ~~processing system~~ network device via the first ~~processing system~~ network device; and, ~~wherein routing includes~~
 providing customized application layer services for a ~~customer~~ plurality of customers using at least one processor selected from the plurality of processors in the ~~first processing system's~~ ring configuration of the first network device.
2. **(Original)** The method of claim 1, wherein, to support a communications network, the plurality of processors includes one or more control processors, one or more access processors, and one or more processing processors.
3. **(Currently Amended)** The method of claim 2, wherein for each of [[a]] the plurality of customers, a virtual router is formed in the first ~~processing system~~ network device and is operably connected to a virtual router formed in the second ~~system~~ network device.

4. **(Currently Amended)** The method of claim 2, wherein for each of [[a]] the plurality of customers, a virtual private network is formed using a virtual router formed in the first ~~processing system~~ network device and operably connected to a virtual router formed in the second ~~system~~ network device.
5. **(Original)** The method of claim 2, wherein the connecting a plurality of processors in the ring configuration includes forming dual counter rotating ring connections, each connecting to each of the plurality of processors.
6. **(Currently Amended)** A system of delivering security services, comprising:
a plurality of processors in a ring configuration within a first service processing system switch; and
means for establishing a secure connection between the first service processing system switch across an internet protocol (IP) connection to a second service processing system switch to form a tunnel, and for providing both router services and customized application layer services for a plurality of customers of a service provider via one or more processors of the first service processing system for a customer switch using the second service processing system switch.
7. **(Previously Presented)** The system of claim 6, wherein, to support a communications network, the plurality of processors includes one or more control processors, one or more access processors, and one or more processing processors.
8. **(Currently Amended)** The system of claim 7, wherein for each of [[a]] the plurality of customers, a virtual router is formed in the first service processing system switch and is operably connected to a virtual router formed in the second service processing switch~~system~~.
9. **(Currently Amended)** The system of claim 7, wherein for each of [[a]] the plurality of customers, a virtual private network is formed using a virtual router formed in the first service processing system switch and operably connected to a virtual router formed in the second service processing switch~~system~~.

10. **(Original)** The system of claim 7, wherein the plurality of processors in the ring configuration includes dual counter rotating ring connections, each connecting to each of the plurality of processors.
11. **(Currently Amended)** A system of delivering security services, comprising:
a first ring-network hardware platform including a plurality of processors
~~within a first processing system~~ connected in a ring configuration; and
a tunnel formed using a secure connection between the first ~~processing~~
~~system~~ ring-network hardware platform across an internet protocol (IP)
connection to a second ~~processing system~~ ring-network hardware platform,
wherein both router services and customized application layer services are
provided to the second ~~processing system~~ ring-network hardware platform via one
or more processors of the plurality of processors of the first processing system
ring-network hardware platform.
12. **(Original)** The system of claim 11, wherein, to support a communications network, the plurality of processors includes one or more control processors, one or more access processors, and one or more processing processors.
13. **(Currently Amended)** The system of claim 11, wherein for each of a plurality of customers, a virtual router is formed in the first ~~processing system~~ ring-network hardware platform and is operably connected to a virtual router formed in the second ~~system~~ ring-network hardware platform.
14. **(Currently Amended)** The system of claim 11, wherein for each of a plurality of customers, a virtual private network is formed using a virtual router formed in the first ~~processing system~~ ring-network hardware platform and operably connected to a virtual router formed in the second ~~system~~ ring-network hardware platform.
15. **(Original)** The system of claim 11, wherein the plurality of processors in the ring configuration includes dual counter rotating ring connections, each connecting to each of the plurality of processors.

16. **(Currently Amended)** The system of claim 11, further ~~comprising~~:
comprising a services management system that provides changeable provisioning of processor capacity among a plurality of customers.
17. **(Currently Amended)** The system of claim 11, further comprising[[:]] a services management system that provides application layer firewall protection for each of a plurality of customers.
18. **(Currently Amended)** The system of claim 11, further comprising[[:]] a services management system that provides provisioning of processor capacity among a plurality of customers, wherein each customer's resources are isolated from those of all the other customers.
19. **(New)** A method comprising:
- providing a first service processing switch at a first point-of-presence (POP) associated with a first site of a first subscriber of a service provider and a first site of a second subscriber of the service provider;
 - providing a second service processing switch at a second POP associated with a second site of the first subscriber and a second site of the second subscriber, wherein the first service processing switch and the second service processing switch are communicatively coupled via a network;
 - logically connecting a plurality of processors of the first service processing switch into a packet-passing ring configuration;
 - logically connecting a plurality of processors of the second service processing switch into a packet-passing ring configuration;
 - establishing a first set of virtual routers on the plurality of processors of the first service processing switch;
 - establishing a second set of virtual routers on the plurality of processors of the second service processing switch;
 - providing the first subscriber with a first set of customized application layer services and the second subscriber with a second set of customized application layer services and providing subscriber resource isolation by

partitioning the first set of virtual routers and the second set of virtual routers between the first subscriber and the second subscriber including (i) allocating and configuring a first partition, comprising a first subset of the first set of virtual routers and a first subset of the second set of virtual routers, to the first subscriber and (ii) allocating and configuring a second partition, comprising a second subset of the first set of virtual routers and a second subset of the second set of virtual routers, to the second subscriber,

providing the first subscriber with a first virtual private network (VPN) communicatively coupling the first site of the first subscriber with the second site of the first subscriber by establishing a first secure tunnel through the network between virtual routers of the first partition, and

providing the second subscriber with a second virtual private network (VPN) communicatively coupling the first site of the second subscriber with the second site of the second subscriber by establishing a second secure tunnel through the network between virtual routers of the second partition; and

providing changeable provisioning of processing capacity between the first subscriber and the second subscriber by programmatically dynamically reallocating resources of the first service processing switch or the second service processing switch between the first partition and the second partition based on comparative processing demands of the first set of customized application layer services and the second set of customized application layer services.

20. **(New)** The method of claim 19, wherein the first set of customized application layer services comprises firewall protection.
21. **(New)** The method of claim 20, wherein the first set of customized application layer services comprises web site hosting.
22. **(New)** The method of claim 20, wherein the first set of customized application layer services comprises e-mail services.

23. **(New)** The method of claim 19, wherein the first secure tunnel and the second secure tunnel are established by sharing a single secure tunnel between the first service processing switch and the second service processing switch.
24. **(New)** The method of claim 19, wherein in said providing changeable provisioning of processing capacity between the first subscriber and the second subscriber is controlled by a services management system of the service provider.
25. **(New)** The method of claim 19, wherein the plurality of processors of the first service processing switch are associated with one or more control blades, one or more access blades, and one or more processing blades.
26. **(New)** The method of claim 19, wherein packets exchanged between the first service processing switch and the second processing switch contain processor identifiers (PEIDs) that identify a processor of the plurality of processors of the first service processing switch or a processor of the plurality of processors of the second service processing switch to which the packets are destined.
27. **(New)** The method of claim 26, wherein the packets contain logical queue identifiers (LQIDs) that identify a software entity to which the packets are destined within the identified processor.